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A REDESCRIPTION OF *HATSCHEKIA CONIFERA*,  
YAMAGUTI 1939, (COPEPODA, CALIGOIDA),  
INCLUDING THE FIRST DESCRIPTION  
OF THE MALE

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In 1939 Yamaguti described a new species of *Hatschekia* based on 8 females collected from *Stromateoides argenteus* (= *Pampus argenteus*) in Japan. Until now this has been the only report of *Hatschekia conifera* and the male has remained unknown. During Cruise 14 of the R. V. *Anton Bruun* off Chile I collected sufficient material of this species to elaborate the description of the female and describe the male for the first time.

I wish to acknowledge the National Science Foundation-US Program in Biology for supporting the field portion of this work.

***Hatschekia conifera* Yamaguti, 1939**

*Material studied:* 93 females and 12 males collected from the gill filaments of a single specimen of the fish *Cubiceps caeruleus* collected during Cruise 14 of the R. V. *Anton Bruun* at 33°02'S 74°37'W off Chile. The host was tentatively identified by Dr. Richard Haedrich. The material has been deposited in the United States National Museum.

*Description:* Female: body form as in Figure 1a. Total length 2.78 mm (2.59-2.88 mm); greatest width .90 mm (.88-.91 mm) (based on an average of 5 specimens).

Cephalon about twice as wide as long, comprising about one-eighth total length, and separated from rest of body. First and second thoracic segments fused and weakly separated from posterior portion of body. Remainder of thoracic segments fused with genital segment comprising three-fourths of total length. Dorsal body surface without surface ornamentation. Posterior corners of genital segment produced (see Fig. 1b). Abdomen (Fig. 1b) small, one-segmented. Caudal rami bearing 5 setae, 4 terminal and 1 on median outer edge; rami held at a wide

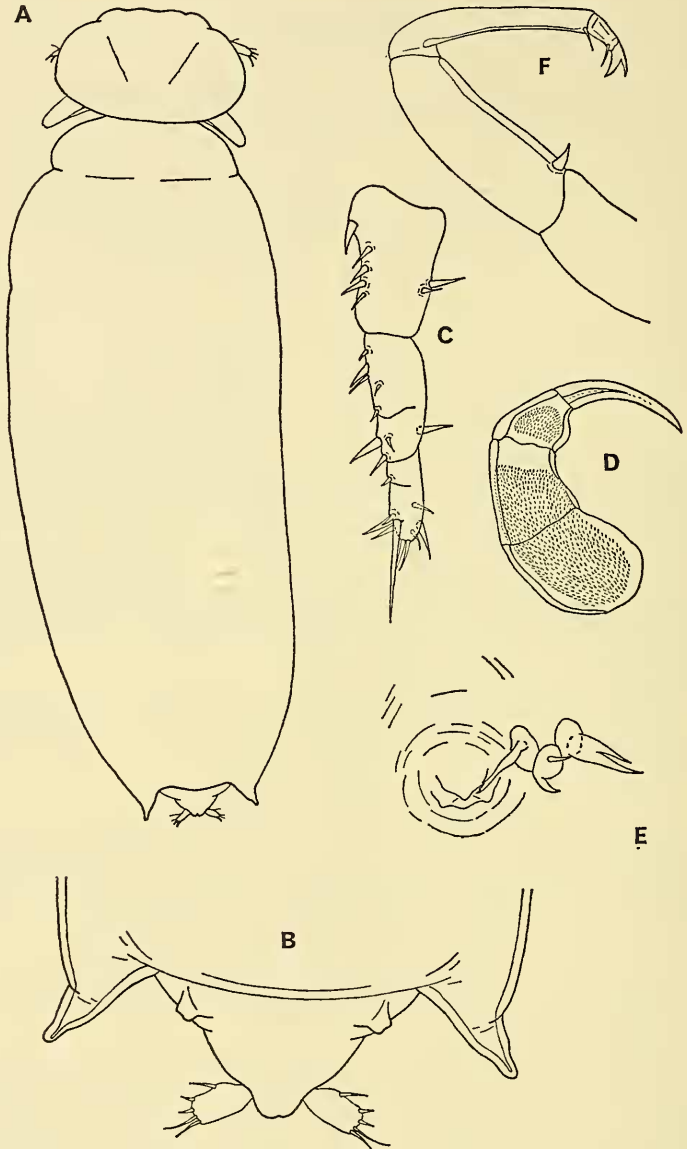


FIG. 1. *Hatschekia conifera*, female: a, dorsal view; b, abdomen and caudal rami; c, first antenna; d, second antenna; e, mandible, first maxilla and second maxilla; f, maxilliped.

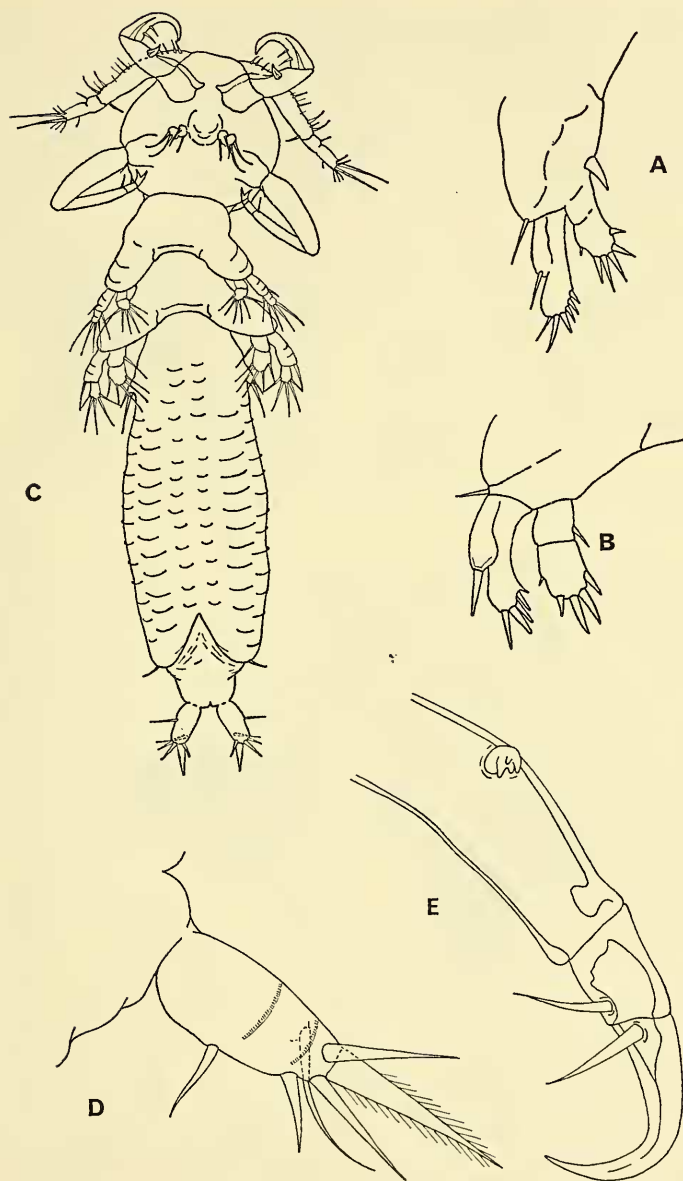


FIG. 2. *Hatschekia conifera*, female: a, leg 1; b, leg 2, male; c, ventral view; d, caudal ramus; e, distal portion of second antenna.

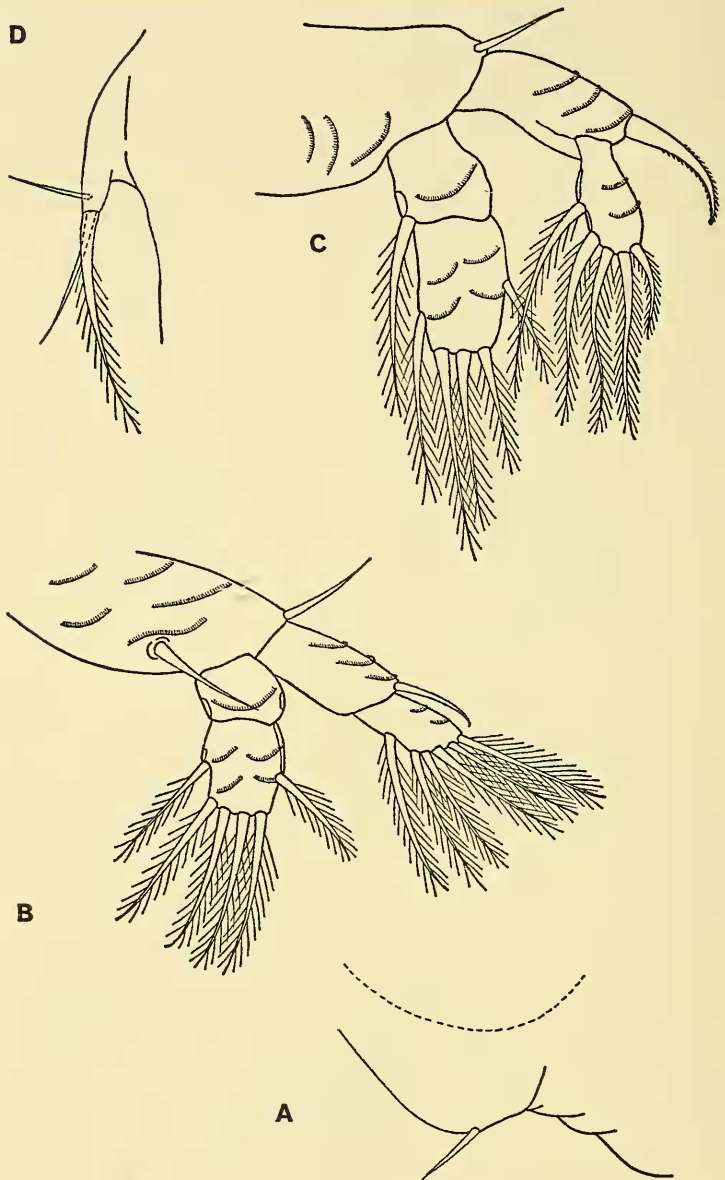


FIG. 3. *Hatschekia conifera*, male: a, posterior corner of genital segment; b, leg 1; c, leg 2; d, leg 3.

angle to body. First antenna (Fig. 1c) 3-segmented; each of last 2 segments incompletely subdivided into 2 segments, all segments bearing naked spines as in the figure. Second antenna (Fig. 1d) in form of a stout claw; basal 3 segments mostly covered with short spinules, no setae on inner margins of segments. Mandible, first maxilla, and second maxilla (Fig. 1e) small and weakly developed. Maxilliped (Fig. 1f) 4-segmented, each of last 3 segments with seta on inner margin, claw bifid.

Legs 1 and 2 biramose. Leg 3 reduced to knob with 2 setae. Leg 4 absent. Leg 1 (Fig. 2a) with each ramus weakly divided into 2 segments; basipod with stout spine near base of endopod, exopod with 1 spine on outer distal corner of basal segment, terminal segment with 6 spines; endopod with 6 spines on terminal segment only. Leg 2 (Fig. 2b) with each ramus 2 segmented; exopod with strong spine on outer distal corner of basal segment and 5 spines on terminal segment, endopod with an inner spine on basal segment and 5 spines on terminal segment. All spines naked. Both legs with an interpodal plate.

Eggs strings of the usual caligoid type; eggs uniseriate containing 30-45 eggs. Length of strings variable but usually at least as long as body.

Male: body form as in Fig. 2c. Total length 1.12 mm; greatest width .26 mm (based on a single specimen). Cephalon as long as wide, comprising about one-fourth total length. Thoracic segments 1 and 2 separated. Genital segment fused with remaining thoracic segments. Ventral surface of genital segment covered with delicate scales. Abdomen 1-segmented and as in female. Caudal rami (Fig. 2d) longer than wide ( $70 \mu \times 30 \mu$ ); each ramus with 6 setae, one outer lateral, 2 subterminal, and 3 terminal (terminal-most setae stout, with short plumosities).

Oral area generally as in female. First antenna armed as in female but each segment relatively longer than corresponding one in female. Second antenna (Fig. 2e) with a prominent process near midpoint of inner margin of second segment; each of last two segments with a single seta, tip in form of a claw. Maxillae as in female except that posteriorly directed setae are longer. Maxilliped as in female.

Legs 1 and 2 biramose, each ramus 2-segmented. Leg 1 (Fig. 3b) with striated scale-like processes on basipod and rami; exopod first segment with seta on outer distal corner, second segment with 6 plumose setae; endopod first segment unarmed, second segment with 6 plumose setae. Leg 2 (Fig. 3c) with scales as in leg 1; exopod first segment with stout seta on outer distal corner, second segment with 5 plumose setae; endopod first segment with plumose seta on inner distal corner, second segment with 5 plumose setae. Leg 3 (Fig. 3d) reduced to a lateral process on genital segment bearing 3 setae, longest plumose. Single setae on posterior corner of genital segment (Fig. 3a) probably represents leg 4.

*Remarks:* The diagnosis of the genus *Hatschekia* as given by Yamaguti, 1963, p. 135 describes both sexes of this genus as having the head

and first thoracic segment separated with the remainder of the thoracic segments fused with the genital segment. Also Yamaguti states that the mouth parts and swimming legs of the male are as in the female. In light of this present study certain changes in the generic diagnosis of both sexes are in order. The first 2 thoracic segments of both sexes are fused, separated from the head anteriorly and the remaining thoracic segments (fused with genital segment) posteriorly. The male differs from the female by the presence of setae on the second antenna of the male, the longer setae on the maxillae of the male, and the long plumose setae on legs 1 and 2 of the male.

The genus *Hatschekia* has had nearly 75 species assigned to it. Most of these are known by the female only. As far as I have been able to determine the only other species from which males are known are *H. iridescens* Wilson 1913 and *H. prionoti* described erroneously by Pearse in 1947 as a female.

The collection used in this study from a stromateoid fish together with Yamaguti's original material from a stromateoid suggests a possible affinity of this parasite for that host group.

## LITERATURE CITED

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